Mr. VIVIAN. We have not developed any chemicals for minimizing or reducing the concentration?

Dr. BUCKLEY. No; although clearly we can do this in the laboratory by fairly extreme change in the chemical environment.

Mr. VIVIAN. Let me ask a question which I think is probably somewhat secondary. You indicate that oysters are effective in concentrating DDT. What happens if you raise oysters in a bed? Can you use these as a means of removing DDT from effluents or can't you?

Dr. BUCKLEY. This is one of those systems problems that we both would agree is important. I don't know the volume of flow that goes through this bed. I don't know the total amount of DDT in it. I don't know the effective amount that the individual oyster would extract from this.

Mr. VIVIAN. You talked about a problem in California where DDT concentration increased as it went from water to plankton to fish to a bird. Finally, the bird died from an overconcentration. Have you found any way of breaking that chain?

Mr. DADDARIO. That's what we are talking about, we have got to find out how to break that chain.

Dr. BUCKLEY. Gradually in the passing of time DDT is no longer present in the environment in sufficient quantity and there is a decreasing amount present in plankton and decreasing amount present in fish and the end result is that the problem is no longer present there. Of course, having this recognized problem, we did not add any more DDT to Clear Lake, Calif. We used other chemicals which were more degradable for the control of the gnat.

Mr. VIVIAN. How did you enforce use of the other chemicals?

Dr. BUCKLEY. In that particular case, it was a State-sponsored program for the control of the Clear Lake gnat and there were no problems. People knew there was a severe problem and one they felt they didn't want to have.

Mr. VIVIAN. In the discussion you have had with the chairman on the subject of how many ecologists there are and how many persons trained in related fields, you refer to the complexity of ecological problems.

It seems to me that the task of learning even a single specie is quite large. To learn the ecological background of the thousands and thousands of insects, birds, fish, is really an enormous task. Then to try to reduce this to some sort of solution—isn't this a task that is two or three orders of magnitude beyond the capabilities of the people in this field in the United States? Aren't we a long way from having any extensive knowledge, really?

Dr. BUCKLEY. Yes, we are. I wouldn't propose that we will in a short time have answers to these questions. It seems to me that we can do very much better than we now do with the available people and by a systemization of the knowledge that we now have.

Secondly, I don't think, at least I have high hopes that it isn't necessary to understand all about each species, but rather one can look at certain environments and hopefully understand the processes that take place in them.

Now, it may be different species that are present in each one, but they fill the same ecological role—they may transfer nutrients from